



Jason Smith, WSDOT Project Delivery Manager
Ecology NWRO, Multi-Agency Permit Team
3190-160th Avenue SE.
Bellevue, WA. 98008

Date: May 12, 2004

Angela Freudenstein, Environmental Coordinator
WSDOT, NW Region
P.O. Box 330310, MS 138
Seattle, WA. 98133-9710

Re: SR 539, Ten Mile to International Boundary MAP Team
Early Project Coordination Meeting Response Letter

Angela –

The MAP Team would like to thank you and the members of the design and environmental staff who organized and participated in the SR 539, Tenmile Road to International Boundary, Early Project Coordination (EPC) meeting. The office meeting and the follow-up field review allowed our team to understand the constraints for the project design, the type and location of environmental resources that will be impacted by the project, and the design effort that your team has already placed on avoiding sensitive resources and minimizing unavoidable impacts to these resources. Since mitigation opportunities have not yet been identified for the project, the meeting also allowed us to think about conceptual mitigation opportunities that could be investigated for this project.

The project review allowed us to have individual agencies and MAP Team disciplines look at project risks and opportunities that your design and environmental team members can use to evaluate options that best address these concerns prior to permit application. We have tried to capture these project issues in order to maximize the benefit of the time that your team will spend on design elements of this project. The following MAP Team feedback is organized by agency so that you can wisely invest resources to target and reduce or eliminate risks that exist on the project and mitigation proposals.

Washington State Department of Fish and Wildlife (WDFW)

Fish Use and Habitat of Surface Waters within Project Limits:

1. Nooksak River: The Nooksak River is a major river in northwestern Washington and categorized by the state as a water of statewide significance. Salmon use in the project reach includes migrating and rearing pink, chum, coho, and fall and spring race of Chinook salmon. Fall race of Chinook, pink, and chum salmon also spawn in this reach. Trout use includes migrating and rearing steelhead, sea-run cutthroat, bull, and Dolly Vardon trout. All trout spawning occurs higher in the watershed and in tributaries. Non-salmonid fish uses include sturgeon, suckers, Pacific lamprey, minnow species and cottids. The Nooksak River in this reach is channelized by the bridge and levees, ranges between 200-400 feet wide, moderate-low gradient <0.5%, and mostly glide-riffle with a slightly meandering configuration. Limited spawning gravel exists. Instream cover is poor with a lack of down large woody debris (LWD) that creates scour rearing pools. Riparian canopy cover is also poor because of extensive agriculture land use practices.

2. Cougar, Fish Trap Creek, and Bertrand Creeks: These Creeks have not been extensively investigated, but are expected to be used by migrating and rearing coho salmon and sea-run cutthroat trout. The WDFW author has not yet investigated if salmonid spawning areas exist in these streams, but because by map observation their origin is in the Nooksak River basin flats, spawning habitat is problematic, unless the upper reaches have noticeable gradient with spawning gravels. An important component of these low-gradient, flood plain streams is lateral fall-spring seasonal rearing habitat off the Nooksak River. Spawning and rearing non-salmonids such as minnow species and cottids use all these streams. All of these streams appear to lack medium to high streamside/riparian canopy to help shade them and moderate water temperatures. This is a limiting factor for most Nooksak River flood plain streams. Flows would be expected to be quite low in the summer-early fall, with corresponding high summer water temperatures, and depressed dissolved oxygen. Conditions for summer salmonid rearing would be expected to be less than desired with improved conditions for fall-spring.

Wiser Lake:

3. The design should protect the wetlands and the distinctive bog matting feature on the west-side of the roadway due to its unique habitat functions.
4. Any disturbed lake riparian areas should be re-established with native plants and trees that will create water's edge canopy cover fish habitat.
5. The bridge opening should be sized accordingly for discharge with respect to Cougar Creek. The design should prevent impoundment of water on the upstream side of the roadway and reduce the need for increased rock armor under the bridge.
6. The lake should not be used as stormwater retention due to lake management concerns (water levels for recreational use, drain field issues, etc).

Nooksack #1, #2 overflow:

7. No WDFW comments since there is no surface water connection (except for extreme events or levee breaks).

Nooksack River Bridge:

8. The project should not include any mid-channel pier(s) because of debris catching. The bridge span should be as long as possible considering the strategic location of any side-channel pier(s) that will minimize the hydraulic and physical impact to the river alignment, streambanks and levees.
9. The bridge alignment should be verified with respect to the river-bend to reduce flow impacts to the bank and levee.
10. The pier angles and shape should be analyzed to reduce debris catching and scour impacts to the bank and levee.
11. Use standard bridge BMP's for removal and construction of over-water structures.
12. Any disturbed riparian zones within 200 feet of the river should be replanted with native trees.

Fish Trap Creek:

13. Bridge should span beyond bank to bank and have capacity for the 100-year flow event.
14. Use standard bridge BMP's for removal and construction of over-water structures.
15. Remove the old piers or cut at or below the stream bottom.
16. The upstream and downstream channel transitions shall align with the proposed channel profile through this reach.
17. Reconstruct the channel under the proposed bridge with appropriate (natural channel) cross-sections. The proposed channel cross-sections should represent the existing channel in channel bottom width, low-flow channel shape, and over-bank benching. It should not be merely trapezoidal shaped.

18. Verify and determine if channel grade control structures are needed.
19. Verify and specify the streambed channel rock mix using the WDFW “streambed rock gradation “ found at: http://wdfw.wa.gov/hab/engineer/cm/culvert_manual_final.pdf
20. Minimize armor rock around footings, piers and embankments.
21. Any disturbed riparian zones within 150 feet of the stream should be replanted with native trees.

Bertrand Creek:

22. WDFW requires that the culvert work shall require fish passage to comply with WDFW culvert criteria. See: http://wdfw.wa.gov/hab/engineer/cm/culvert_manual_final.pdf for additional information.
23. Verify the average channel width (outside the influence of the existing culvert both upstream and downstream approximately 200-feet) to ensure the culvert span meets the WDFW “Stream Simulation” guideline dimensions.
24. Any disturbed riparian zones within 150 feet of the stream should be replanted with native trees.

US Army Corps of Engineer (Corps)

The Corps was not able to attend the meeting. The following notes have been coordinated with the Corps, but it should be noted that they are based on the attempt of Jason Smith, WSDOT MAP Team, to bring up issues that would be relevant to the Corps. Therefore, these notes may not reflect all issues of concern to the Corps:

Impacts and Application Needs:

25. During the meeting, WSDOT indicated that there will likely be unavoidable impacts to wetlands and water bodies at Ten Mile Road, Wiser Lake, the Nooksack River and associated floodplain, as well as roadside ditches that may be considered jurisdictional by the Corps. The 404 permit is primarily focused on impacts to aquatic resources, so the application should be consistent in its discussion of these impacts between the various documents and drawings. Aquatic impacts include wetlands, streams, and ditches tributary to other waters of the US, so your summary is consistent with Corps interests.
26. There may be fills to roadside drainage ditches that would be considered impacts to jurisdictional areas under the “Talent” decision. These areas would need to be identified, described, and included in the impact calculations. Please refer to the interim process agreed upon by the Corps and WSDOT for direction on this issue. While a procedure for applicants to use is not yet developed to address this issue, the Corps strongly recommends that road widening projects, which potentially will have impacts to roadside ditches, request a jurisdictional determination from the Corps before they put their application materials together. This way, there will be some certainty about what needs to go into the application package and we can avoid delays related to incomplete applications as much as possible. The Corps acknowledges that WSDOT is in the process of trying to set-up a meeting to review this project.
27. This project is likely to require a Corps 404 Individual Permit due to unavoidable impacts to Waters of the US. The review of an individual permit application involves the analysis of alternatives under Section 404 (b)(1). Any documentation that WSDOT has developed over the years showing other alternatives as well as avoidance and minimization measures will be very helpful in working through this part of the permit review.
28. The application should be sure to include all temporary impacts as well as a discussion of indirect impacts. Indirect impacts might include things like the unfilled portion of wetlands that are mostly filled.
29. It is important that the drawings be clear, readable, and tell the story of the project and its impacts to aquatic resources. The Corps recommends reviewing the drawing guidelines before preparing

drawings for the application. Kate Stenberg, MAP Team Project Manager, has also indicated that she would be willing to meet with WSDOT staff to review materials before submittal of your application.

- 30. In addition, please provide documentation of ESA, EFH, and Section 106 compliance.
- 31. We noted the potential need for a technical meeting on mitigation site selection. If this is deemed necessary, the sooner it occurs the better, and the presence of the appropriate disciplines is advised.
- 32. The Corps may agree that a mitigation opportunity that targets watershed improvements may be possible on this project. It is advised that as this and/or other mitigation opportunities are investigated that close coordination and communication with the Corps and other MAP Team agencies continues.

Washington State Department of Ecology (Ecology)

Water Quality & Stormwater Management:

- 33. Provide information on BMPs proposed to protect water quality from the roadway widening work on Wiser Lake during construction (e.g. the TESC for the work across the Lake). The restrictions of land space and constraints in this area may create some unusually difficult conditions for complying with water quality standards.
- 34. Ecology requires more specifics on how the City of Lynden stormwater pond is going to be incorporated into this project.
- 35. Provide plans on how impacts to water quality will be minimized during bridge replacement operations (especially the Nooksack section).
- 36. Ecology is concerned about the construction of stormwater ponds in areas with a typically high groundwater table. Provide information regarding constructability and water quality risks related to construction of the stormwater ponds including the depth to groundwater for the pond locations.
- 37. Provide information on plans for dewatering for in-water work on the Nooksack River Bridge as part of the JARPA. Ecology will condition the 401 Certification to ensure that the project will comply with State water quality standards. The general plan should use the following hierarchy of BMPs: isolation of work site, upland infiltration of contaminated water, swales and or filter strips to treat water that cannot be infiltrated, and chemically enhanced flocculation. For any discharge into the river, the permit will require monitoring of turbidity levels at the edge of the mixing zone allowed under WAC 173-201a-110(3). Project documents should specify that work would halt when turbidity meets or exceeds 10% of background (or 5 NTU, which ever is greater) until additional BMPs are applied to treat the discharge.
- 38. Ecology would appreciate a copy of the value engineering study when it is completed.
- 39. During the early project coordination meeting on April 19, 2004 design staff said they would use the 2004 HRM for stormwater pollution control. If staff finds they cannot incorporate all of the requirements of the HRM into the project, we advise that you discuss this with the MAP Team as soon as possible. If necessary, justify the need for substantial deviations from the stormwater manual requirements by using Appendix 3A - Determination of Engineering and Economic Feasibility for Construction of Stormwater Management Facilities within Highway Rights-of-Way of the HRM.
- 40. Fishtrap Creek is listed on the State's 303d (polluted water bodies) list as exceeding temperature standards. Project design should incorporate planting trees and shrubs in riparian areas to shade Fishtrap Creek as much as possible. Whatcom county critical areas ordinance requires 100 feet of native vegetation as a buffer on fish bearing streams. Project designers should attempt to provide a 100 foot native vegetation buffer on Fishtrap Creek. Temperature problems are manifested in the summer, so discharge to surface waters from short duration summer storms should be minimized. (The project design should provide for infiltration during summer and fall).

41. Ecology staff in the Bellingham Field Office report that Wiser Lake is highly eutrophic; in the summer the lake is choked with mats of algae from high levels of nutrients, especially phosphorous, in the Lake. Project pollution control design should provide for no net increase in total phosphorus loading to the Lake. Construction through the Lake, whether placing fill or building walls, should apply all available BMPs to prevent sediment (fresh earth is a source of phosphorous) from entering the water. Project design for permanent stormwater pollution controls for crossing Wiser Lake should incorporate phosphorous removal BMPs or maximize infiltration of stormwater into the road fill to remove pollutants with filtration. An Ecology Embankment on both sides of the road may be ideal to protect the lake from additional eutrophication. Capturing runoff and conveying it to an infiltration facility would also be an acceptable alternative for treatment. No stormwater detention for the portion of the roadway across the Lake is necessary; roadway through the Lake functions as an over-water structure for stormwater detention considerations.

Wetlands:

42. The wetland impact description should include details on temporary impacts as well as permanent fill, including the impacts of the temporal loss of functions. The mitigation plan should include information on restoration of the wetland areas that will be temporarily impacted.
43. Pockets of wetland on both sides fringe the existing road crossing of Wiser Lake. On the east side of the fill, wetlands are primarily within or just beyond the riprap, and are dominated by willow shrubs. On the west side, the wetlands consist of a partially floating mat that extends some ways from the edge of the fill. These mats are dominated by emergent wetland species, including a Washington State sensitive plant known as bristly sedge (*Carex comosa*). While we understand that WSDOT puts considerable effort into avoiding and minimizing wetland impacts throughout their project areas, we want to emphasize the importance of avoiding impacts to the wetlands on the west side of the fill. This area is a priority due to the rarity of the wetland type and associated sensitive plant species. As we discussed in the field, the best approach to avoiding impacts may be a combination of design elements, rather than relying solely on vertical retaining walls as is often done to minimize wetland impacts. In this case, we are concerned that a retaining wall placed at the edge of the floating mat could potentially degrade or eliminate this natural feature. Ecology encourages WSDOT to coordinate with the MAP Team during design development for the Wiser Lake crossing.
44. This project may offer an opportunity to gain considerable environmental benefits, and to possibly reduce project costs by pooling all the mitigation needs onto one or two sites. Ecology guidance states that onsite mitigation is preferable unless it can be demonstrated that offsite mitigation will be more beneficial in creating and protecting the replaced wetland functions. In this instance, it seems reasonable to assume that future development in the area will likely occur along the widened SR 539 highway. Therefore, a mitigation site that is not adjacent to the highway is likely to be better protected from future potential impacts related to stormwater and an increased human presence. Rather than splitting the wetland mitigation among a number of roadside sites, with one in each sub-basin, Ecology encourages WSDOT to seek a mitigation site that is off the highway and does not pose a likelihood of being impacted due to future road widening projects. The site should provide opportunities for improving watershed-level functions, have good sources of hydrology, and offer high potential for function replacement. We also encourage WSDOT to explore the option of pooling mitigation for both this project and the SR 539 Horton to Tenmile Road project.
45. Ecology staff would be willing to facilitate the mitigation planning process by communicating with Whatcom County representatives our strong preference for higher quality, off-highway, pooled mitigation for these two projects. We also have available sources of information, both within Ecology and with Whatcom County that may aid in timely site selection if this option is pursued. We strongly encourage exploration of alternative (offsite) mitigation for this project.
46. In the process of selecting potential mitigation sites, Ecology recommends collecting as much hydrology data as possible throughout the project development period. For sites that will rely on

groundwater as a primary water source, Ecology will need to see data on the seasonal groundwater elevation to assess the probable success of the mitigation plans. It is preferable to have data from several piezometers on the site that show groundwater fluctuations over a period of two or more years. Continuous data monitors are preferred over monthly hand monitoring in that they provide the most complete information. Other sources of data may be relevant as well, such as gage data from nearby streams.

47. Project documents should clearly indicate which wetlands are designated as prior converted. In the wetland impact analysis, provide information on impacts to the prior converted wetlands as well as other wetlands.

It was stated during the meeting that there is a potential to accelerate the project to a February 2007 or earlier AD. The attached checklist has been customized to approximate MAP Team product delivery time periods before AD. The checklist is intended to be used as a tool, supplementing the JARPA, to aid you in permit application preparation. Another use of the checklist may be to help you work with the project team to develop a realistic PDIS schedule that accounts for the risks outlined above.

We understand a Value Engineering (VE) Study is currently being organized. You may want to consider having a couple members of the MAP Team participate at points in the study when it would be most valuable. If this acceleration opportunity, or the participation on the VE study, or a discussion on watershed mitigation options is something that you would like to further explore, please let Dan and/or I know, as we would be willing to participate in the evaluation of potential acceleration options.

The MAP Team has tried specifically to point out risks and opportunities that can be managed to try to target efficient use of your staff time and ours, we look forward to working out the complex issues that are involved in the project with your design team. Please recognize that while early project coordination does not ensure permit approval, it goes a long way in demonstrating an atmosphere and willingness to work together to avoid communication and coordination errors that can be costly and time consuming. If you find that during your project development efforts that you cannot meet a MAP Team member agency request, or if you are in need of technical assistance, please let us know as soon as possible so that we can work to resolve issues before they become problems that affect your project schedule.

Please express our appreciation to the design team and others who helped to organize this review. If you need anything please coordinate through Dan Hagglund who works with me on all WSDOT NWR issues.

Sincerely,

Jason Smith, WSDOT MAP Team
Project Delivery Manager

Attachments

Cc: Mark Russell, Design PE.
Ben Brown, WSDOT NWR Environmental
MAP Team Members

Map Team Contact List

Name	Agency / Discipline	MAP Phone #'s	Other Phone #'s	E-mail	Work Schedule	Co-location Schedule
Sean Callahan	Ecology 401 Permit Specialist	(425) 649-7181		scal461@ecy.wa.gov	M-Th. 7:00-5:30	M-Th. Eastgate
Jim Fraser	WDFW Area Habitat Biologist	(425) 649-2128	(360) 902-2566 DFW	frasejlf@dfw.wa.gov	M-Th. 7:00-5:30	M-Tu. Eastgate W-Th. Olympia
Dan Hagglund	WSDOT NWR MAP Team Envir. Coordinator	(425) 649-7106	(206) 440-4534 DOT	hagglund@wsdot.wa.gov	M-Th. 6:30-5:00	M-Tu. Eastgate W-Th. Seattle
Kim Harper	Ecology Wetland Biologist	(425) 649-7004		khar461@ecy.wa.gov	M-Th. 7:00-5:30	M-Th. Eastgate
Pat Klavas	WDFW Habitat Engineer	(425) 649-7100	(360)902-2606 DFW	klavajpk@dfw.wa.gov	M-Th. 7:00-5:30	M-Tu. Eastgate W-Th. Olympia
Gerry Shervey	Ecology Stormwater Engineer	(425) 649-7215		gshe461@ecy.wa.gov	M-Tu.	M-Tu. Eastgate
Jason Smith	WSDOT MAP Team Lead	(425) 649-7286	(360) 791-8827 cell	smithjw@wsdot.wa.gov	M-Th. 7:00-4:30 Fri. 7:00-3:30	M-W Eastgate Th-Fri. Ellensburg
Kate Stenberg	USACE 404 Project Manager	(425) 649-7002	(206) 764-6912 Corps	kathryn.j.stenberg@nw.s02.usace.army.mil	M-F	M Eastgate Tu.-F. Seattle



12/16/2004

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MAP TEAM COMPLETE APPLICATION CHECKLIST
FOR ENVIRONMENTAL PERMITS

Following is a checklist of the documentation that is required to constitute a complete application for state and federal environmental permits. Each item, if applicable, is designated as either being required to initiate project review or required to complete a MAP Team member agency permit. The latter indicates those items that may be submitted after the review process has been initiated. All items on the requirements section of the list that apply to your project must be submitted to constitute a complete application. The project-specific requirements will be confirmed by MAP Team staff following the initial site visit. Items on the optional section of the list may be recommended for submittal by a MAP Team member, but are not required.

This checklist is for use by the WSDOT NWR Environmental Coordinator and the Project Engineer to confirm that all required items are submitted with sufficient time for the permit process to be completed relative to the WSDOT Advertisement Date. If items are submitted later than recommended in this checklist, the risk increases that the permits may not be complete by the Ad date.

For all projects, submit a JARPA, using the most current version of the form, to initiate the permit review process. As part of the JARPA, submit a vicinity map, plan view drawings, and cross-sectional views (see attached JARPA instructions for specifics on completing adequate drawings). For additional project-specific requirements, see the checklist below.

Project Information

Project Title:	SR 539, Ten Mile Road to International Boundary
Project WIN No.:	A53910A
Project Engineer:	Mark Russell, PE.
Project Environmental Coordinator:	Angela Freudenstein

Project-Specific Requirements for Complete Application

Required for Your Project if Checked	Application Requirements	Required to Initiate Permit Review Process	Required to Complete Permit Process	Recommended Submittal Timing Prior to Ad Date
Requirements Specific to USACE Permits (skip section if no USACE permit needed):				
X	Biological Evaluation or Biological Assessment (If no BE or BA needed, then submit list of T&E species that may be affected by the project)	X		12 months
X	Documentation of concurrence or Biological Opinion on ESA from USFWS and NOAA Fisheries		X	8 months
X	Documentation of compliance with Magnuson-Stevens Fishery Conservation & Management Act on Essential Fish Habitat (EFH) from NOAA Fisheries		X	8 months
X	List of historic places that may be affected by the project (also include places that are eligible for listing under NHPA)	X		12 months
X	Documentation of compliance with National Historic Preservation Act (NHPA) Section 106		X	8 months
X	Relevant floodplain information as per Executive Order 11988		X	8 months
X	Mitigation Sequence Summary (required for all USACE Individual Permits and some Nationwide Permits)		X	8 months
X	Alternatives analysis for 404(b)(1) process (required for USACE Individual Permits)		X	8 months
Other Requirements:				
X	Documentation of Shorelines process Whatcom County and City of Sumas?		X	6 months
X	Coastal Zone Consistency Form		X	7 months
	Wetland Delineation/Function Assessment Report	X		12 months
X	Conceptual Wetland Mitigation Plan (required by USACE to initiate permit review process for NWP 14 and 33)		X	ASAP
X	Final Wetland Mitigation Plan		X	7 months
X	NPDES Section 402 General Permit Applications		X	4 months
X	Plans to protect fish and fish habitat (e.g., stream restoration plan, culvert designs for fish passage locations)		X	7 months
X	Other: Wetland Hydrology Summary		X	4-5 months
Optional Documents (these are not required but may be useful on a case-by-case basis)				
	Temporary Erosion and Sedimentation Control Plan (TESCP)		X	6 months
	Hydraulics Report		X	6 months
	Other: Watershed Mitigation Site Analysis	X		ASAP

JARPA Instructions for Required Drawings and Maps

Three types of illustrations are needed to properly depict the proposed activity: Vicinity Map, Plan View, and Cross-Sectional View. Drawings to scale should be prepared using clear printing, black ink, and the fewest number of sheets possible. Include the scale. Drawings for USACE permits must be on an 8 ½" X 11" format. Date and number all drawings. Show both existing and proposed conditions and the area of impact to aquatic resources. For USACE drawings, include title block per instructions on USACE website – <http://www.nws.usace.army.mil/reg.html>. At a minimum, drawings must contain the following information.

1. Vicinity Map. A copy of a county or city road map, or a U.S. Geological Survey topographic map may be used. Include:

- a. North arrow (north should be directed to the top of the page).
- b. Name of waterbody (and river mile if appropriate).
- c. Location of the proposed activity (indicate with a circle, arrow, X, or similar symbol).
- d. Provide latitude and longitude of the site to the nearest second.
- e. Provide directions to the site.

2. Plan View. This drawing illustrates the proposed project area as if you were looking down at the site from overhead.

- a. North arrow (north should be directed to the top of the page).
- b. Name of waterbody and direction of water flow.
- c. Location of existing shoreline.
Tidal Waters: Show the Ordinary High, Mean High, Mean Low, Mean Higher High, and Mean Lower Low Water Marks or Lines, and/or wetland boundaries. Indicate elevation above datum. Use a datum that sets mean lower low water (MLLW) at an elevation of 0.0 feet.
Non-tidal waters: Show the Ordinary High Water Mark or Line, Meander Line, and/or wetland boundary.
- d. Dimensions of the activity or structure and impervious surfaces, distance from property lines, and the distance it extends into the waterbody beyond the Ordinary High, Mean High, Mean Higher High, and Mean Low Water Mark or Line, and/or wetland boundaries, as appropriate.
- e. For Corps permits, indicate the distance to Federal projects and/or navigation channels (if applicable). To ascertain, call the Corps Regulatory Branch Office at (206) 764-3495.
- f. Show existing structures on subject and adjoining properties.
- g. Indicate adjoining property ownership.
- h. If fill material is to be placed, identify the type of material, amount of material (cubic yards), and area to be filled (acres).
- i. If project involves dredging, identify the type of material, amount of material (cubic yards), area to be dredged, method of dredging, and location of disposal site. Dredging in areas shallower than -10 feet needs to be clearly identified on drawings.
- j. Identify any part of the activity that has been completed.
- k. Indicate types and location of aquatic, wetland, riparian and upland vegetation.

- l. Erosion control measures, stabilization of disturbed areas, etc.
- m. Utilities, including water, sanitary sewer, power and stormwater conveyance systems (e.g., bioswales).
- n. Indicate stormwater discharge points.
- o. Proposed landscaping where applicable (for complex landscape plans, please attach a separate drawing).
- p. Where applicable, plans for development of areas on or off site as mitigation for impacts associated with the proposal.
- q. On all variance applications the plans shall clearly indicate where development could occur without approval of a variance, the physical features and circumstances on the property that provide a basis for the request, and the location of adjacent structures and uses.
- r. For bridge scour or culvert repair/replacement, show the original permitted condition as well as the existing and proposed conditions.

3. Cross-Sectional View. This drawing illustrates the proposed activity as if it were cut from the side and/or front. Include:

- a. Location of water lines.
Tidal Waters: Show the Ordinary High, Mean High, Mean Higher High, and Mean Lower Low Water Marks or Lines, and/or wetland boundary.
Non-tidal waters: Show the Ordinary High Water Mark or Line, and/or wetland boundary. Use a datum that sets MLLW at an elevation of 0.0 feet.
- b. Water depth or tidal elevation at waterward face of project.
- c. Dimensions of the activity or structure, and the distance it extends into the waterbody beyond the Ordinary High, the Mean High, the Mean Higher High and Mean Low Water Mark or Line, and/or wetland boundaries.
- d. Indicate dredge and/or fill grades as appropriate.
- e. Indicate existing and proposed contours and elevations.
- f. Indicate types and location of aquatic, wetland, and riparian vegetation present on site.
- g. Indicate type and location of material used in construction and method of construction.
- h. Indicate height of structure.
- i. Vertical and horizontal scales used should be equal.

4. Clearance and Elevations. Applies to Coast Guard Bridge Permits only.

- a. Vertical clearance measured from Mean Higher (tidal waters) or Ordinary High (non-tidal water).
- b. Horizontal clearance between piers or pilings.
- c. Bottom elevation of the waterway at the bridge.